

The Role of Physician Assistants in Health Care Delivery

Executive Summary

Physician assistants (PAs) make up a small but rapidly expanding part of the health care workforce. Their training and education produce a sophisticated and flexible medical professional who can function in many specialty areas and within many practice structures. Because of their adaptability and lower cost, PAs can play an important role in the health care delivery system.

PAs deliver medical and surgical care in teams with physicians, who provide medical supervision and delegate tasks to the PAs. The scope of practice for PAs is set by state laws and regulations, which determine the types of services they can provide and the circumstances in which they are allowed to provide them. Most states grant physicians the flexibility to determine the range of medical tasks they can delegate to PAs and the method of supervision. Some states are more explicit regarding supervisory or practice requirements and may mandate that physicians review a certain percentage of charts or be onsite with the PA for a specific percentage of time, although no state requires PAs and physicians to practice continuously at the same site.

Many experts see PAs as important contributors to emerging strategies to deliver health care more efficiently and effectively, but important barriers exist that could slow the growth of the profession. For example, state laws and regulations may not be broad enough to encompass the professional competencies of PAs. In addition, state statutes and regulations impose widely diverse restrictions on physicians' ability to delegate authority to PAs, which, in some instances, are overly strict. However, limited research exists

that evaluates the quality of care that PAs provide under different supervisory and scope-of-practice arrangements to support reducing such restrictions. In addition, PA training programs face the same shortage of clinical training locations that most clinically based professional programs are experiencing. Finally, limited data indicate that PAs, like physicians, respond to economic incentives by shifting away from primary care and underserved communities in favor of higher-paying specialty care.

Governors seeking to take full advantage of the PA workforce in their states may review the laws and regulations affecting the profession and consider actions to increase the future supply of PAs. Most states grant PAs legal standing to provide care based on their skills and training. In states that do not, a first step is to expressly incorporate PAs as providers of medical services in both law and regulation. A next step is to evaluate whether the laws and regulations governing the scope of practice granted to PAs are sufficiently broad to allow PAs to work to the full scope of their professional training. State policymakers confronted with long-term shortages of primary care physicians or other specialties also may consider facilitating greater educational opportunities for PAs; for example, by coordinating clinical training programs. This approach would be effective at reducing shortages in specific specialties or areas, such as low-income or rural areas, if combined with financial incentives that encourage PAs to practice in those specialties or areas.

Introduction

Physician assistants (PAs) are a versatile component of the U.S. health care workforce. The profession was originally created in the mid-1960s to relieve a

shortage of primary care physicians. Military veterans of that era who had served as corpsman and medics were trained to provide medical care under physician oversight.¹ Between 1991 and 2010, the number of practicing PAs almost quadrupled, growing from about 20,000 to about 75,000.² Currently, more than 95,000 certified PAs practice in the United States.³

Today, PAs play a broad and expanding role in the health care system, working in a variety of practice areas and settings. At the practice level, PAs provide care for a much lower cost of labor than physicians. PAs working in family medicine receive about half the salary of physicians, and those working in specialties make about one-third as much as physicians in the same specialty.⁴ Because of their flexibility and lower costs, PAs are often an important component of strategies to alleviate provider shortages and increase the efficiency of the health care delivery system.⁵

This issue brief describes the role of PAs in the U.S. health care system and barriers that may prevent PAs from being used to maximum effect. The brief

concludes with specific policy considerations for state leaders who are interested in getting the greatest value from their PA workforce.

Current Role in Delivering Health Care

Current Areas of Practice

PAs are integrated into the health care delivery system in most settings and specialties. They make up 10 percent of the primary care workforce and represent 9 percent of clinicians in community health centers.⁶ They also play a special role in federally designated rural health clinics, which are required to have a PA, a nurse practitioner, or certified nurse midwife available during at least 50 percent of their operating hours.⁷ In specialty care, PAs make up a significant percentage of staff practicing in rural hospitals.⁸ In addition, most PAs work in a variety of specialties, including oncology, dermatology, gastroenterology, orthopedics, and behavioral health.⁹ Nearly 50 percent of PAs report having worked in two to three areas of medicine over their careers, a fact that further underscores their adaptability.¹⁰

¹ Randy Danielson, Ruth Ballweg, Linda Vorvick, and Donald Sefcik, *The Preceptor's Handbook for Supervising Physician Assistants* (Sudbury, MA: Jones & Bartlett Learning, 2012).

² Perri A. Morgan, Nilay D. Shah, Jay S. Kaufman, and Mark A. Albanese, "Impact of Physician Assistant Care on Office Visit Resource Use in the United States," *Health Services Research* 43 no. 5 part 2 (October 2008): 1906–1922; and Roderick S. Hooker, James F. Cawley, and Christine M. Everett, "Predictive Modeling the Physician Assistant Supply: 2010–2025," *Public Health Reports* 126 no. 5 (2011): 708–716.

³ National Commission on Certification of Physician Assistants, "For the Public," <http://www.nccpa.net/Public> (accessed April 15, 2014).

⁴ Medscape, *Physician Compensation Report 2013*, <http://www.clinicaladvisor.com/2013-nurse-practitioner-physician-assistant-salary-survey/slideshow/1296/> (accessed April 16, 2014); and The Clinical Advisor, "2013 Nurse Practitioner & Physician Assistant Salary Survey," <http://www.clinicaladvisor.com/2013-nurse-practitioner-physician-assistant-salary-survey/slideshow/1296/%20> (accessed September 19, 2014).

⁵ Roderick S. Hooker, James F. Cawley, and William Leinweber, "Physician Assistant Career Mobility and the Potential for More Primary Care," *Health Affairs* 29 no. 5 (2010): 880–886.

⁶ Agency for Healthcare Research and Quality, "Primary Care Workforce Facts and Stats No. 3," <http://www.ahrq.gov/research/findings/factsheets/primary/pework3/index.html> (accessed September 19, 2014).

⁷ U.S. Department of Health and Human Services, "Rural Health Clinic," *Rural Health Fact Sheet Series* (January 2013), <http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/RuralHlthClinfctsh.pdf> (accessed August 25, 2014).

⁸ Roderick S. Hooker, David J. Klocko, and G. Luke Larkin, "Physician Assistants in Emergency Medicine: The Impact of Their Role," *Academic Emergency Medicine* 18 no. 1 (January 2011): 72–77; Doan Quynh, Vikram Sabbhaney, Niranjan Kisson, Sam Sheps, and Joel Singer, "A Systematic Review: The Role and Impact of the Physician Assistant in the Emergency Department," *Emergency Medicine Australasia* 23 (2011): 7–15; and Lisa R. Henry, Roderick S. Hooker, and Kathryn L. Yates, "The Role of Physician Assistants in Rural Health Care: A Systematic Review of the Literature," *Journal of Rural Health* 27 (2011): 220–229.

⁹ Anita Duhl Glick and Anthony A. Miller, "Physician Assistants: From Pipeline to Practice," *Academic Medicine* 88, no. 12 (December 2013); and Catherine Dower and Sharon Christian, "Physician Assistants and Nurse Practitioners in Specialty Care: Six Practices Make It Work," prepared for the California Health Foundation (June 2009), <http://www.chcf.org/publications/2009/06/physician-assistants-and-nurse-practitioners-in-specialty-care-six-practices-make-it-work> (accessed October 9, 2013).

¹⁰ Glick and Miller, "Physician Assistants: From Pipeline to Practice."

Role of Delegation and Supervision

PAs perform a wide range of duties, including providing routine care, treating acute and chronic illnesses, managing hospital inpatients, performing minor surgeries, and assisting during major surgeries.¹¹ To a large degree, supervising physicians are granted the flexibility to delegate tasks to PAs and determine appropriate supervision methods, but state scope-of-practice laws sometimes limit physicians’ authority. For example, although all states allow PAs to prescribe medication, 14 place some limitations on the types of medications PAs can prescribe.¹² Eleven states also stipulate a specific list of tasks physicians are allowed to delegate to PAs. To delegate beyond those tasks, a physician must get approval from the state medical board. The American Academy of Physician Assistants (AAPA) argues that such restrictions impede physicians’ flexibility to manage their workload and that physicians should have the authority to delegate such tasks at the local level. (See Table 1 for a summary of state restrictions on delegation and the Appendix B for state-by-state information about delegation restrictions that the AAPA tracks.)¹³

Typically, PAs work directly with physicians at the same site. A small number of PAs (3.4 percent) report that their supervising physician is offsite.¹⁴ All states have laws and regulations that explicitly authorize physicians to supervise PAs through electronic communication, but some states couple that authorization with requirements for in-person contact. Twenty-five states place restrictions on how often the physician supervisor must be onsite (for example, site visits may be required once a month or every two weeks), require supervising physicians to be within

a certain travel time or distance, or require that the state medical board approve the physician’s plans (see Table 2). In some of those states, those requirements are tiered and reduced as a PA gains more experience. Twenty-four states require a physician’s signature on some percentage of the charts of patients whom PAs treat. Most states specify how many PAs one physician can supervise—usually between two and six. (See Appendix B for state-by-state information about supervision requirements for PAs.)

Table 1. Restrictions on Delegation to PAs

Delegation Restrictions	Number of States
Some prescribing limits	14
Legislation or board sets task limits	11

Source: American Academy of Physician Assistants

PA practice is diverse, and supervision requirements can be implemented in many different ways, even under the same state law or regulation. Under **Colorado** regulations, for example, a “supervising physician must either be onsite with the PA or be readily available by telecommunication.”¹⁵ Examples from several practices in Colorado illustrate how varied supervision can be under these requirements. At one suburban practice, the supervising physician delegates examinations, diagnoses, and treatment decisions to two PAs.¹⁶ The supervising physician is off site but provides medical direction and periodically reviews charts that the PAs complete.¹⁷ Another practice, located in rural Colorado, allows PAs to see patients, make diagnoses, and provide treatment, but a physician is onsite and available for consultations, as needed.¹⁸ A third practice in an urban

¹¹ Dower and Christian, “Physician Assistants and Nurse Practitioners in Specialty Care.”

¹² In most of these cases, state law restricts PAs from prescribing Schedule II medications, which are designated under federal law as having a high potential for abuse, with the possibility of psychological or physical dependence.

¹³ American Academy of Physician Assistants, “Supervision of Physician Assistants: Access and Excellence in Patient Care” (October 2011), <http://www.aapa.org/workarea/downloadasset.aspx?id=635> (accessed August 25, 2014).

¹⁴ Glick and Miller, “Physician Assistants: From Pipeline to Practice.”

¹⁵ American Academy of Physician Assistants, *Physician Assistants: State Laws and Regulations*, 13th Edition (January 2013), <http://www.aapa.org/workarea/downloadasset.aspx?id=491> (accessed August 25, 2014).

¹⁶ Colorado Health Institute, *Collaborative Models of Primary Care: Case Studies in Colorado Innovation* (October 2010), <http://www.coloradohealthinstitute.org/uploads/downloads/CollaborativePrimaryCare.pdf> (accessed December 6, 2013).

¹⁷ Ibid.

¹⁸ Ibid.

area allows PAs to examine patients, but physicians make all final treatment decisions.¹⁹ All of those practices are in the same state and held to the same statutory and regulatory standards, but they have developed different methods for using PAs based on their patients’ needs and the PAs’ abilities.

Table 2. Supervision Requirements Imposed by State Legislation or Medical Boards

Supervision Requirements	Number of States
Travel time or distance limits	25
Chart co-signatures required	24
Supervision ratio	40*

* Includes the District of Columbia

Source: American Academy of Physician Assistants

PAs and New Models of Care

Because of the flexibility, adaptability, and cost-effectiveness of PAs, the profession can play a critical role in delivery system transformation and, in particular, the provision of more integrated, team-based care. Physician associations have joined the AAPA in affirming that physicians and PAs working in team-oriented practices are a proven model for delivering high-quality, cost-effective patient care.²⁰ To encourage the success of team-based models of care, the associations also support the interprofessional education and family medicine rotations of medical

students, family medicine residents, and PA students. The associations promote flexibility in state regulations to allow individual practices to determine appropriate roles and supervision levels for PAs.²¹

In particular, PAs can play an important role in patient-centered medical homes (PCMHs), which are designed to coordinate and integrate care across settings.²² For example, in a PCMH practice in **New York**, patients can select a PA as their primary care provider.²³ In that practice, the PA sees walk-in acute-care patients as well as the patients who have been assigned to him or her on a long-term basis. In another advanced medical home in rural New York, a PA serves as the main provider of care for all patients, with support from a remote physician.²⁴ In **Connecticut**, a PCMH initiative provides enhanced payments for medical home services to providers who include physicians and PAs.²⁵

Current Capabilities: Education and Licensure

States play an important role in the education, training, and licensure of PAs. The average educational program for PAs lasts 27 months (three academic years) at the graduate level.²⁶ By 2021, in recognition of the high level of academic achievement required of PAs, all students who graduate from an accredited PA program will be awarded a master’s degree.²⁷ In 2005, 67 percent of programs provided master’s degrees, a

¹⁹ Ibid.

²⁰ American Academy of Physicians Assistants, *Physician Assistants and the Patient-Centered Medical Home* (June 2011), <http://www.aapa.org/workarea/downloadasset.aspx?id=581> (accessed November 18, 2013). See also American Academy of Physician Assistants and American College of Physicians, *Internists and Physician Assistants: Team-Based Primary Care* (2010), http://www.acponline.org/advocacy/current_policy_papers/assets/internists_asst.pdf; and American Osteopathic Association and American Academy of Physician Assistants, *Osteopathic Physicians and Physician Assistants: Excellence in Team-based Medicine* (July 2013), <http://www.aapa.org/workarea/downloadasset.aspx?id=1700> (accessed August 25, 2014).

²¹ Ibid.

²² Albert Wu, “Compared to Usual Care, What Is the Effect of Care from a Non-Physician Patient-centered Medical Home on Care Quality and PCOs?” *Research Prioritization Topic Brief* (April 2013), <http://www.pcori.org/assets/PCORI-Improving-Healthcare-Systems-Topic-Brief-09-041613.pdf> (accessed September 19, 2014).

²³ American Academy of Physician Assistants, *Physician Assistants and the Patient-Centered Medical Home*.

²⁴ Ibid.

²⁵ Patient-Centered Primary Care Collaborative, “Husky Health Person-Centered Medical Home Program Initiative,” <http://www.pcpc.org/initiative/husky-health-person-centered-medical-home-program-initiative> (accessed August 25, 2014).

²⁶ American Academy of Physician Assistants, “What Is a PA?” http://www.aapa.org/the_pa_profession/what_is_a_pa.aspx (accessed November 19, 2013).

²⁷ Accreditation Review Commission on Education for the Physician Assistant, “ARC-PA Standards Degree Deadline Issue,” <http://www.arc-pa.org/documents/Degree%20issue10.2011fnl.pdf> (accessed August 25, 2014).

PAs as Owners and Employers

Medical supervision and employment of PAs are separate activities and treated separately under some state laws. Although it is rare, some PAs actually own their own practices in part or completely, and some employ physicians.²⁸ States determine whether that is allowed. Arizona, Maryland, North Carolina, and Washington are among states that allow PAs to own their own practices.²⁹ For example, a rural health clinic in North Carolina is owned by a PA, who is the sole provider of care. The physician supervisor owns shares in the clinic and supervises by telephone. In an example from Washington, a PA owns an urgent care clinic and employs a physician, who provides on-site supervision. In a third example from Arizona, two PAs opened their own primary care clinic in 2004, which at the time was the only primary care clinic in downtown Tucson.³⁰ They hired a physician as an independent contractor to provide supervision and met weekly in person. In each case, the physician provided medical supervision, regardless of his or her status as an employee.

substantial increase from 1995, when only 16 percent of programs did so.³¹

Accreditation standards require PA programs to provide a generalist education rather than focus on any particular specialty.³² During their program, students complete clinical rotations in emergency medicine, family medicine, internal medicine, pediatrics, surgery, behavioral medicine, and obstetrics and gynecology. Graduates from an accredited PA program are eligible to sit for a national exam that the National Commission on Certification of PAs (NCCPA) offers.³³ All states require that prospective PAs pass that exam to receive a license to practice.³⁴ In addition, PAs must complete 100 hours of continuing medical education every two years.³⁵ They also must pass a recertification exam every 6 years, although the profession is moving from a 6-year recertification cycle to a 10-year cycle.³⁶

Postgraduate clinical training programs are not required for licensure or for PAs to practice in a specialty area, and a recent estimate found that fewer than 2 percent of PAs pursue such training.³⁷ The NCCPA has created optional Certificates of Added Qualifications for postgraduate training in cardiovascular thoracic surgery, emergency medicine, nephrology, orthopedic surgery, and psychiatry. The AAPA opposes requiring residencies or postgraduate certifications for entry into clinical specialties and expresses concern that formally accrediting such programs could lead to the profession losing its generalist focus, even if the programs remain voluntary.³⁸ One survey found that PAs who chose postgraduate clinical training did so because they felt it provided more employment

²⁸ American Academy of Physician Assistants, *Physician Assistants and Practice Ownership* (March 2011), <https://www.aapa.org/workarea/downloadasset.aspx?id=631> (accessed August 25, 2014).

²⁹ Stephen Cornell, "PA Owned and Operated," <http://nurse-practitioners-and-physician-assistants.advancweb.com/Article/PA-Owned-and-Operated.aspx> (accessed August 25, 2014).

³⁰ LewEllyn Hallet, "Caring for Those on the Fringe," *St. Paul's School Alumni Horae* 89 no. 2, p. 18 (2009), https://www.sps.edu/ftpimages/36/misc/misc_53097.pdf (accessed September 19, 2014).

³¹ Virginia H. Joslin, Patricia A. Cook, Ruth Ballweg, et al., "Value Added: Graduate-Level Education in Physician Assistant Programs," *The Journal of Physician Assistant Education* 17, no. 2 (2006): 16–30, <http://www.paeaonline.org/index.php?ht=a/GetDocumentAction/i/3530> (accessed August 25, 2014).

³² Danielson, *The Preceptor's Handbook for Supervising Physician Assistants*.

³³ National Commission on Certification of Physician Assistants, "About Us: Purpose and Mission," <http://www.nccpa.net/About> (accessed September 1, 2014).

³⁴ American Academy of Physician Assistants, "Statutory and Regulatory Requirements for State Licensure" (February 2013), <http://www.aapa.org/workarea/downloadasset.aspx?id=599> (accessed September 1, 2014).

³⁵ National Commission on Certification of Physician Assistants, "Certification Process Overview," <http://www.nccpa.net/CertificationProcess> (accessed April 17, 2014).

opportunities and the possibility of a higher salary, although the actual effect on employment and salary is unclear.³⁹ Residency program directors have argued that residencies better prepare PAs than on-the-job training in a specialty.⁴⁰

Challenges of Integrating PAs into Health Care Delivery Systems

State policymakers struggling with health care workforce shortages in underserved communities, including many rural areas, might consider the potential benefits and costs of expanding the integration of PAs into the evolving health care delivery system. To do so, states can examine existing regulations, the availability of training programs, and incentives to guide PAs to needed practice areas.

Statutory and Regulatory Considerations

State statutory and regulatory frameworks related to PAs can serve as a barrier to maximizing the workforce. In some instances, outdated regulatory language that was crafted before PAs became widespread might not include the profession in the definition of *providers*. States seeking to enable PAs to practice to the full extent of their abilities could review their current statutes and regulations to ensure that the definition

of *provider* under the law and in regulations is broad enough to encompass the professional competencies of PAs. Several states have revised their laws and regulations to address this problem. For example, **Massachusetts** law officially designates PAs as *primary care providers*.⁴¹ **Minnesota** law uses the term *personal clinician* and includes PAs in the term's definition.⁴² **Vermont** law uses the term *health care professional* and includes PAs in that definition.⁴³ Some states explicitly include PAs in the statutory authorization for their medical home programs, including **Iowa**, **Maine**, and **Vermont**.⁴⁴

Another challenge is that the appropriate level of supervision and scope of practice that take full advantage of PAs' training and capabilities remain uncertain. Some experts believe that decisions about the manner in which PAs are supervised should be made at the practice level and that dictating the precise nature of a physician's supervisory role in state law may lead to inefficiencies without increasing patient safety.⁴⁵ Some research suggests that PAs provide an equivalent quality of care to other providers (on similar tasks). One study found that PAs have a lower rate of malpractice than do physicians.⁴⁶ Little research, however, compares the quality of care that PAs provide under different supervision and scope-of-

³⁶ This change in recertification cycles is posited on making the recertification process more efficient and aligned with other medical professions. Christopher Doscher, "A Primer on the 10-Year Recertification Cycle," *Advance Healthcare Network for NPs & PAs* (April 18, 2012), <https://nurse-practitioners-and-physician-assistants.advanceweb.com/Columns/Physician-Assistants-Inside-Out/A-Primer-on-the-10-Year-Recertification-Cycle.aspx> (accessed April 16, 2014).

³⁷ Maura Polansky, Gloria J. Hsieh Garver, Laurie N. Wilson, Mary Pugh, and Ginny Hilton, "Postgraduate Clinical Education of Physician Assistants," *The Journal of Physician Assistant Education* 23, no. 1 (2012).

³⁸ American Academy of Physician Assistants, *Maintaining Professional Flexibility: Issues Related to Accreditation of Postgraduate Physician Assistant Programs*, <http://www.aapa.org/workarea/downloadasset.aspx?id=790> (accessed November 21, 2013).

³⁹ Michael Anick, Jim Carlson, and Patrick Knott, "Postgraduate PA Residency Training," *Advance Healthcare Network for NPs & PAs* 11, no. 1 (February 1, 2003), <http://nurse-practitioners-and-physician-assistants.advanceweb.com/Article/Postgraduate-PA-Residency-Training.aspx> (accessed August 25, 2014).

⁴⁰ *Ibid.*

⁴¹ An Act Improving the Quality of Health Care Costs Through Increased Transparency, Efficiency, and Innovation, The 188th General Court of the Commonwealth of Massachusetts, ch. 224, sec. 72, <https://malegislature.gov/Laws/SessionLaws/Acts/2012/Chapter224> (accessed August 25, 2014).

⁴² American Academy of Physician Assistants, *Physician Assistants and the Patient-Centered Medical Home*.

⁴³ *Ibid.*

⁴⁴ *Ibid.*; American Osteopathic Association and American Academy of Physician Assistants, *Osteopathic Physicians and Physician Assistants*.

⁴⁵ *Ibid.*

⁴⁶ Planning Unit Health System Planning, Research & Analysis Branch, Health System Strategy & Policy Division, Ontario Ministry of Health and Long-Term Care, *A Literature Review on Physician Assistants* (August 2011), http://www.hprac.org/en/projects/resources/LiteratureReview_PhysicianAssistants.pdf (accessed August 25, 2014); and Roderick Hooker, Jeffrey Nicholson, and Tuan Le, "Does the Employment of Physician Assistants and Nurse Practitioners Increase Liability," *Journal of Medical Licensure and Discipline* 95, no. 2 (2009): 6–16.

practice requirements, and states might want to look for further evidence on quality of care as they consider the most appropriate requirements for PAs.⁴⁷

As policymakers consider PA supervisory requirements, they can compare their own laws and regulations with those in other states and ensure that theirs are in line with PAs' current education and training. For example, states could choose to consider whether regulations such as those that require physicians supervising PAs to sign a certain number of charts or be onsite for specific amounts of time are necessary to ensure quality care and protect patients. A simple correlation indicates that states with the most restrictive supervision requirements also tend to have the lowest ratio of PAs to physicians.⁴⁸ Some states have chosen to remove certain restrictions after reviewing their laws and regulations in light of those of other states. For example, **Washington** recently removed a requirement that physicians be onsite for at least 10 percent of the time a PA is practicing.⁴⁹ **Indiana** recently allowed PAs to prescribe Schedule II medication.⁵⁰ In 2013, **Missouri** changed a law that had required physicians to be onsite with PAs a majority of the time to allow on-site supervision for half a day every two weeks.⁵¹

However, the effects on access to care of changing scope-of-practice regulations remain unclear. Further research

that compares the quality of care that PAs provide under varying practice models could better inform policymakers as they consider the most appropriate requirements for PAs.⁵² Government funding for research into scope of practice for PAs would provide an objective source of information on a topic where the most common funding sources tend to be interested parties. Policymakers could use more research that directly answers questions of importance to the states, such as the studies that have been funded by agencies like the Health Resources and Services Administration (HRSA) in the U.S. Department of Health and Human Services for nurse practitioners.⁵³ States also might consider providing support for such research as they innovate. For example, in **California**, the Health Manpower Pilot Projects Program approves temporary waivers of workforce regulations to allow for experimentation.⁵⁴

Expanding the PA Workforce

PAs make up a small but growing part of the health care workforce, and governors might consider adopting strategies to increase their numbers.⁵⁵ A first step is assessing the number of PAs graduating in their states as well as the number of graduates who remain in the state to practice. Although the number of PA programs has continued to increase, projections suggest that the number of job openings for PAs could exceed the number of PA graduates over the next few years.⁵⁶ Some

⁴⁷ Ibid.

⁴⁸ Janet P. Sutton, Christal Ramos, and Jennifer Lucado, "US Physician Assistant (PA) Supply by State and County in 2009," *Journal of the American Academy of Physician Assistants* 23 no. 9 (2010): E5–E8.

⁴⁹ American Academy of Physician Assistants (AAPA), "Washington Patients Have Increased Access to Health Care," AAPA Blog, entry posted August 1, 2013, <http://www.aapa.org/twocolumn.aspx?id=1424> (accessed September 19, 2014).

⁵⁰ Aubrey Westgate, "Several States Rethink PA Scope of Practice, AAPA Weighs In," *Physicians Practice*, May 29, 2013, <http://www.physicianspractice.com/blog/several-states-rethink-pa-scope-of-practice-aapa-weighs-in> 5998 (accessed September 3, 2014).

⁵¹ Michele Munz, "Not enough doctors, so Missouri law paves way for physician assistants to provide care," *St. Louis Post-Dispatch*, July 14, 2013, http://www.stltoday.com/lifestyles/health-med-fit/medical/not-enough-doctors-so-missouri-law-paves-way-for-physician/article_0a0f1bd7-8051-513c-a93e-5298208ea6d1.html (accessed September 3, 2014).

⁵² Ibid.

⁵³ Eric Larson, "Practice Characteristics of Rural Nurse Practitioners in the United States," *Rural Health Research Gateway*, <http://www.rural-healthresearch.org/projects/100002274> (accessed August 26, 2014).

⁵⁴ California Healthcare Foundation, *Improving Access to Health Care in California: Testing New Roles for Providers* (December 2009), <http://www.chcf.org/~media/MEDIA%20LIBRARY%20FILES/PDF/1/PDF%20ImprovingAccessHealthCareCATestingNewRoles.pdf> (accessed August 12, 2014).

⁵⁵ Michael Sargen, Roderick S. Hooker, and Richard A. Cooper, "Gaps in the Supply of Physicians, Advanced Practice Nurses, and Physician Assistants," *Journal of the American College of Surgeons* 212, no. 6 (2011): 991–999; Staff Care, "2013 Survey of Temporary Physician Staffing Trends" (March 2013); and Hanover Research, *Demand for a Master of Physician Assistant Program* (January 2011), <http://www.hanoverresearch.com/wp-content/uploads/2012/02/Demand-for-a-Master-of-Physician-Assistant-Program-Redacted.pdf> (accessed October 8, 2013).

⁵⁶ Hanover Research, *Demand for a Master of Physician Assistant Program* (January 2011), <http://www.hanoverresearch.com/wp-content/uploads/2012/02/Demand-for-a-Master-of-Physician-Assistant-Program-Redacted.pdf> (accessed August 26, 2014).

regions of the country that have fewer PA programs could benefit from new PA programs—for example, the Southwest.⁵⁷ Some state workforce committees that have explored the issue have recommended the creation of new or expanded PA training programs in their public universities (for example, workforce committees in **Minnesota**,⁵⁸ **New Mexico**,⁵⁹ and **Oklahoma**⁶⁰ have made such recommendations).

As with other medical professionals, challenges exist in creating new programs for PAs, including faculty shortages, lack of funding, and, in particular, lack of clinical training opportunities for students.⁶¹ New programs are concentrated at private universities, a trend that can result in higher debt for students potentially affecting the practices they select upon graduation (though more research would help determine the magnitude of this challenge).⁶² States do provide some support to both public and private PA programs through grants and contracts,⁶³ and these sources are currently about 17 percent of the operating budget for PA programs across the country.⁶⁴ States could consider increasing this support. PA programs have received significant public support in the past. For the first three decades of the PA profession, the majority of PA educational programs received federal funding for basic operations and developing curriculum and

later primarily as incentives for training and services oriented toward underserved areas.⁶⁵ That public funding, through HRSA's Title VII Health Professions Program, linked PA programs to primary care practice and to underserved populations.⁶⁶

As mentioned above, many PA programs also have trouble developing clinical training opportunities for their students. State leaders can work with educational institutions, hospitals, health systems, and other provider groups to expand clinical training opportunities. Those efforts can be particularly helpful in developing safety net clinical training sites, which can lead to expanded access to services for underserved patients.⁶⁷

Other Considerations

Finally, states should be cognizant of economic incentives and other factors that may undermine efforts to use PAs to address workforce shortages, particularly in primary care and in rural communities. For example, between 1974 and 2012 the percentage of PAs working in primary care decreased from about 70 percent to 34 percent.⁶⁸ Some experts believe that that decline was the result of the higher earnings potential and a better work-life balance available in specialties compared with primary care. Those factors have had a similar effect on the physician workforce.⁶⁹

⁵⁷ Ibid.

⁵⁸ Governor's Workforce Development Council, *Minnesota's Primary Care Provider Shortage: Strategies to Grow the Primary Care Workforce* (December 2011), http://www.gwdc.org/docs/publications/Primary_Care_Report.pdf (accessed August 26, 2014).

⁵⁹ New Mexico Health Policy Commission, *Recommendations to Address New Mexico Health Care Workforce Shortages* (January 2011), http://www.lodpdf.net/preview/NfqLgFV1nSgmE0et9QdjwwIVufSaD1nWN_BfmBMdyU_NEW-MEXICO-CORRECTIONS-DEPARTMENT-STRATEGIC.html?query=RECOMMENDATIONS-TO-ADDRESS-NEW-MEXICO (accessed August 26, 2014).

⁶⁰ Primary Care Advisory Taskforce Meeting Recommendations (May 2013), <http://www.ok.gov/health2/documents/FINAL%20PCAT%20Recommendations%2005%2013%202013.pdf> (accessed August 26, 2014).

⁶¹ Ibid.; R.S. Hooker, J.F. Cawley, and C.M. Everett, "Predictive Modeling the Physician Assistant Supply: 2010–2025," *Public Health Reports* 126, no. 5 (2011): 708–716.

⁶² Hooker, Cawley, and Everett, 2011.

⁶³ Physician Assistant Education Association, *Physician Assistant Educational Programs in the United States: 27th Annual Report 2010–2011*, <http://www.paeonline.org/index.php?ht=a/GetDocumentAction/i/149930> (accessed August 26, 2014).

⁶⁴ Ibid.

⁶⁵ James F. Cawley and Eugene Jones, "Institutional Sponsorship, Student Debt, and Specialty Choice in Physician Assistant Education," *Journal of Physician Assistant Education* 24, no. 4 (2013): 4–8, <http://www.paeonline.org/index.php?ht=action/GetDocumentAction/i/154814> (accessed August 26, 2014).

⁶⁶ James F. Cawley, "Physician Assistants and Title VII Support," *Academic Medicine* 83, no. 11 (2008): 1049–1056.

⁶⁷ Julie C. Spero, Erin P. Fraher, Thomas C. Ricketts, and Paul H. Rockey, *GME in the United States: A Review of State Initiatives*, University of North Carolina, Cecil G. Sheps Center for Health Services Research (September 2013), http://www.shepscenter.unc.edu/wp-content/uploads/2013/09/GMEStateReview_Sept2013.pdf (accessed August 26, 2014).

⁶⁸ Danielson, *The Preceptor's Handbook for Supervising Physician Assistants*.

⁶⁹ Ibid., 171–172.

New Data Will Aid PA Workforce Analysis

The NCCPA Health Foundation, a nonprofit organization supporting the NCCPA, will soon be providing new data about PAs to the HRSA National Center for Health Workforce Analysis. Such data have the potential to better inform states about contributions that PAs make to their state health workforce. Data will be collected as part of the national certification and recertification process for PAs through an online professional profile. The profile will capture extensive data about PAs throughout their professional career. Data include demographic information and practice characteristics, such as the number of patients seen and hours providing face-to-face care.^{70,71}

With regard to rural versus urban practice, most PAs work in urban areas; although PAs are better represented in rural communities than physicians.⁷² Some experts

suggest that PAs could be discouraged from practicing in rural areas because of factors such as professional isolation, lower salaries, and a lack of opportunities for professional development.⁷³ Research also suggests that PAs who have more graduate education are less likely to practice in rural areas, which could mean that as the profession moves more fully toward master's degrees or beyond, fewer PAs will practice in rural communities.⁷⁴ Despite these factors, experts also suggest that rural practices may offer PAs greater professional autonomy.⁷⁵

To address some of these concerns, states might assess whether new or increased financial incentives could be made available to PAs who choose to work in underserved practice specialties or communities. Researchers report that such incentives can be effective and recommend an increase in their use.⁷⁶ For example, most of the 35 states that participate in the National Health Service Corps educational loan repayment program have made PAs eligible for the program.⁷⁷ In some instances, states also have created their own PA loan repayment programs. **Iowa** recently appropriated funding for an educational loan repayment program for PAs who commit to work in rural communities.⁷⁸

Conclusion

PAs are already providing care in a variety of settings, and the number of PAs continues to grow. The education that PAs receive produces a sophisticated and flexible

⁷⁰ Interview with Anita Duhl Glicken, November 22, 2013.

⁷¹ For the data-collection form, go to: <http://bhpr.hrsa.gov/healthworkforce/data/minimumdataset/physicianassistants.pdf>.

⁷² PAs as a whole are more likely to work in nonurban areas than are physicians (16 percent of PAs compared with 8 percent of physicians in 2010). Stephen M. Petterson, Robert L. Phillips, Andrew W. Bazemore, and Gerald T. Koinis, "Unequal Distribution of the U.S. Primary Care Workforce," Graham Center Policy One-Pager (June 2013), http://www.graham-center.org/online/etc/medialib/graham/documents/publications/june-one-page-Par.0001.File.dat/jun_1_graham.pdf, (accessed November 21, 2013).

⁷³ Ibid.; Bettie Coplan, James Cawley, and James Stoehr, "Physician Assistants in Primary Care: Trends and Characteristics," *Annals of Family Medicine* 11 (2013): 75–79.

⁷⁴ Eric H. Larson and L. Gary Hart, "Growth and Change in the Physician Assistant Workforce in the United States, 1967–2000," *Journal of Allied Health* 36, no. 3 (2007): 121–130.

⁷⁵ Roderick S. Hooker, "Physician Assistants Working with the Medically Underserved," *Journal of the American Academy of Physician Assistants* 26, no. 4 (2013): 12.

⁷⁶ Robert Graham Center, *What Influences Medical Student & Resident Choices?* (March 2009), http://macyfoundation.org/docs/macy_pubs/pub_grahamcenterstudy.pdf (accessed August 26, 2014).

⁷⁷ National Health Service Corps, "State Loan Repayment Programs," <http://nhsc.hrsa.gov/loanrepayment/stateloanrepaymentprogram/> (accessed October 9, 2013); and National Health Service Corps, "SLRP Eligibility Requirements," <http://nhsc.hrsa.gov/currentmembers/stateloanrepayment-program/eligibility/index.html> (accessed October 9, 2013).

⁷⁸ Rural communities must be at least 20 miles from a city of 50,000 or more residents. Iowa College Student Aid Commission, "Rural Iowa RN and PA Loan Repayment Program," <https://www.iowacollegeaid.gov/content/rural-iowa-rn-and-pa-loan-repayment-program> (accessed September 3, 2014).

workforce, well suited to succeeding in a rapidly changing health care environment. The profession offers a scalable and affordable source of health care. PAs will continue to play an important role in health care delivery in the future, particularly in light of new, integrated models of care. Because current research comparing outcomes for PAs under different regulations is limited, it is difficult to fully assess the

appropriateness of state scope-of-practice laws. States can ensure that PAs are used efficiently by reviewing state laws and regulations—especially the definition of *provider*—for appropriateness and by facilitating educational and clinical training opportunities for PAs. Finally, states can consider creating financial incentives to encourage PAs to work in underserved communities.

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Appendix A. Summary of State Policy Considerations

Challenges	Policy Considerations	State Example
Unclear statutes or regulations may inadvertently limit PAs' ability to participate in innovations.	Statutes and regulations that are silent on PAs can create ambiguity. When developing new health care delivery innovations, add specific references to PAs to provide clarity on whether a law or regulation will affect PAs or whether PAs can participate in a new initiative.	Minnesota: State statute regarding health homes specifically includes PAs in the definition of clinicians (along with physicians and advanced practice nurses [APNs]). ^a
Overly strict statutes or regulations may interfere with physicians' ability to delegate tasks to PAs.	Across the country, state scope-of-practice statutes and regulations impose widely diverse restrictions on physicians' ability to delegate authority to PAs. Some states may want to better align their own rules with those of other states.	Missouri: In 2013, the state reduced restrictions that required a physician to be onsite 66 percent of the time a PA spends with patients and must otherwise be within 30 miles. ^b The new law reduces those requirements so that a physician only has to be onsite for a half day every two weeks and can otherwise be within 50 miles.
Lack of clinical training sites for PAs limits the ability of programs to train new PAs.	One of the most significant barriers to training new PAs is a lack of clinical training sites, which medical, nursing, and other health care professional students use as well. Solutions developed for nursing programs to improve placement could be applicable to PA programs.	Massachusetts: In response to a shortage of clinical training spots for nurses, the state Board of Higher Education worked with the Massachusetts Center for Nursing to create a centralized clinical placement system. The online system coordinates spots for 75 nursing programs and 92 health care organizations. ^c
Existing economic incentives are driving PAs away from underserved communities and populations.	Like many other health professionals, current economic incentives drive PAs toward specialty care and away from underserved areas or underserved populations.	Iowa: PAs who commit to five years of providing care in rural communities are eligible for up to \$5,000 annually for four years in student loan repayments. ^d Eligible service areas include cities that have fewer than 26,000 residents and those located more than 20 miles from a city that has 50,000 or more residents.

^a "Health Care Homes," Minnesota Statutes, 256B.0751.

^b Michele Munz, "Not Enough Doctors, So Missouri Law Paves Way for Physician Assistants to Provide Care," St. Louis Post-Dispatch (St. Louis, MO), July 14, 2013, http://www.stltoday.com/lifestyles/health-med-fit/medical/not-enough-doctors-so-missouri-law-paves-way-for-physician/article_0a0f1bd7-8051-513c-a93e-5298208ea6d1.html (accessed May 9, 2014).

^c Massachusetts Department of Higher Education, "Centralized Clinical Placement System," <http://www.mass.edu/currentinit/NiCcp.asp> (accessed May 9, 2014).

^d Legislative Services Agency, "Budget Unit: Rural Nurse Practitioner and Physician Assistant Loan Repayment Program," Fiscal Topics (July 2013), https://www.legis.iowa.gov/docs/Fiscal_Topics/2014/FTRKM000.PDF (accessed August 26, 2014).

Appendix B. PA Practice Restrictions by State

The AAPA, a voluntary membership organization that advocates on behalf of the profession, tracks laws and regulations that affect PAs' scope of practice (both the medical and surgical tasks they perform as well as supervision requirements). This table was produced with information provided by the AAPA. Definitions are provided below the table for each restriction.

State	Rx Restrictions	Delegation Restrictions	Distance Restriction	On-Site Restriction	Co-Signature Requirement	Ratio
Alabama	Schedule II	None	None	None	None	3:1 ^e
Alaska	None	None	None	Tiered	None	None
Arizona	None	None	None	None	None	4:1
Arkansas	Schedule II	None	1 hour travel	None	None	None
California	None	None	None	None	5 percent	4:1
Colorado	None	None	None	Tiered	Tiered	4:1
Connecticut	None	None	None	None	None	6:1
Delaware	None	None	None	Monthly	None	4:1
District of Columbia	None	None	None	None	None	4:1
Florida	Formulary	No final diagnosis	Reasonable proximity	Task specific	None	4:1
Georgia	Schedule II	Board	None	None	Rx	2:1 ^f
Hawaii	Schedule II	None	None	None	All	2:1
Idaho	None	None	None	Monthly	None	3:1 ^g
Illinois	None	None	None	None	None	5:1 ^h
Indiana	None	None	None	None	Tiered	2:1
Iowa	Schedule II depressants	None	None	2 weeks	Tiered	5:1
Kansas	None	None	None	Periodic	Tiered	2:1
Kentucky	All scheduled drugs	Board	Board	Tiered, board	All	4:1
Louisiana	Schedule II	None	None	None	All	4:1
Maine	Schedule II requires board approval	None	None	None	None	None
Maryland	None	List	None	None	None	4:1
Massachusetts	None	None	None	None	Schedule II Rx	None
Michigan	None	None	None	None	None	4:1 ⁱ

^e 2:1 for surgeons and fewer than 3:1 if PAs cumulative work hours exceed 80 hours per week.

^f 4:1 in institutional settings or when in a group practice.

^g 6:1 with board approval.

^h No restriction in licensed health facilities.

ⁱ No restriction in health facilities.

State	Rx Restrictions	Delegation Restrictions	Distance Restriction	On-Site Restriction	Co-Signature Requirement	Ratio
Minnesota	None	None	None	None	None	5:1 ^j
Mississippi	None	Board	None	Tiered	10 percent per month	2:1
Missouri	Schedule II	None	50 miles	Half-day every 14 days	10 percent every 14 days	3:1 ^k
Montana	None	None	None	Monthly	Tiered	None
Nebraska	None	None	None	Tiered	Tiered	4:1
Nevada	None	None	None	Monthly	10 percent quarterly	3:1
New Hampshire	None	None	None	None	Representative sample	4:1
New Jersey	None	List	None	None	All	4:1
New Mexico	None	None	None ^l	None	None	None
New York	None	None	None	None	None	4:1 ^m
North Carolina	None	None	None	Tiered	None	None
North Dakota	None	None	None	None	None	None
Ohio	Schedule II ⁿ	List	1 hour travel	None	None	2:1
Oklahoma	Schedule II	List	None	Half-day per week	In-patient settings	2:1
Oregon	None	None	Board	Board	Board	Board
Pennsylvania	None	None	None	Weekly	All within 10 days ^o	4:1
Rhode Island	None	None	None	None	None	None
South Carolina	None	None	60 miles	Board	All for remote sites	3:1
South Dakota	None	None	None	None	None	4:1
Tennessee	None	None	None	None	20 percent monthly	None
Texas	Schedule II ^p	None	None	None	None	5:1
Utah	None	None	None	None	All scheduled drug Rx	4:1
Vermont	None	None	None	None	None	None
Virginia	None	Board	None	Same office	None	6:1
Washington	None	None	None	None	None	5:1

^j Increase with board approval.

^k No restriction in hospital.

^l Exception if supervisor is a DO.

^m 6:1 in correctional facilities and hospitals.

ⁿ In some settings.

^o Weekly for remote sites.

^p In some settings.

State	Rx Restrictions	Delegation Restrictions	Distance Restriction	On-Site Restriction	Co-Signature Requirement	Ratio
West Virginia	Formulary	Board	None	2 weeks	Adequate	3:1 ⁹
Wisconsin	None	List	None	Monthly	None	2:1
Wyoming	None	None	None	None	None	3:1

Table Definitions

Rx Restrictions: Limitations on PAs’ ability to prescribe medications.

- Board indicates that the medical board must provide approval first.
- Schedule II indicates that a PA is restricted from prescribing Schedule II controlled substances, while Schedule II with Board Approval indicates that a PA may prescribe Schedule II controlled substances with approval from the regulatory board.
- Schedule II depressants indicates that a PA can prescribe some Schedule II controlled substances without a physician’s oversight excluding drugs classified as depressants. Formulary indicates that PAs may only prescribe from a pre-approved list.
- All scheduled drugs indicates that a PA is restricted from prescribing any drugs on the list of scheduled controlled substances.
- Schedule II in some settings means that PAs can prescribe medications in certain practice settings without oversight, for example, in a hospital.

Delegation Restrictions: Limitations on what a physician can delegate to a PA above any prescribing restrictions noted under “Rx Restrictions.”

- No final diagnosis indicates that a physician must make any final diagnosis.
- Board indicates that the regulatory board must pre-approve a physician’s delegation plan for a PA.
- List indicates that there is a pre-approved list of tasks that may be delegated to a PA.

Distance Restrictions: Limitations on the distance a supervising physician can be from the PA being supervised, usually related to travel time.

- One Hour Travel indicates that the physician must be able to reach the PA’s practice site within one hour.
- Fifty Miles and Sixty Miles indicate the physical distance allowed between the practice site of a supervising physician and a PA.
- Reasonable Proximity indicates that the supervising physician has some discretion but must maintain distance as a consideration when supervising a PA’s practice.
- Board indicates that the regulatory board must approve a physician’s plan for his or her location with respect to the PA being supervised.

On-Site Restrictions: Regulates how often the physician must be in the same practice location as the PA.

- Tiered indicates that the state requires less time onsite as the PA gains more experience.

⁹4:1 in hospitals.

- Monthly, two weeks, half-day every 14 days, and half-day per week indicate the length of time allowed between the supervising physician's visits.
- Task specific indicates that the supervising physician must be physically on-site with the PA for certain medical tasks.
- Board indicates that the regulatory board must approve the supervising physician's plan for scheduling on-site time.
- Same office indicates that a PA may not establish a separate practice site from a supervising physician.
- Exception if supervisor is a DO means that a PA is only subject to restrictions on how far his or her practice is from the supervising physician when that supervising physician is a Doctor of Osteopathy.

Co-signature Requirements: Requirements that a supervising physician review and sign patient charts.

- All and five percent indicate the proportion of charts a supervising physician must sign.
- Ten percent per month, ten percent per week, and similar formulations indicate that the supervising physician must sign a specific proportion during specific periods of time.
- Board indicates that the regulatory board must approve a physician's plan for overseeing a PA's charts.
- Tiered indicates that a supervising physician can sign fewer charts as the PA gains experience.
- Rx, Schedule II Rx, and All Scheduled Rx indicate different categories of prescriptions that require a signature from a physician.
- Representative sample and adequate indicate that the supervising physician must sign some charts but has some discretion over the number.
- In-patient settings means that a supervising physician must sign a PA's chart only in in-patient settings.
- All for remote sites means that the supervising physician must sign all charts for a PA practicing in a remote setting.

Ratio: Limitations on the number of PAs a physician can supervise.

- 4:1 and similar formulations indicate that one physician can supervise 4 or fewer PAs.
- In correctional facilities and hospitals indicates that physicians supervising PAs in correctional facilities and hospitals may supervise a total of 6 PAs as opposed to only 4 in other practice settings.
- In institutional settings or when in a group practice indicates that physicians can supervise more PAs when practicing in an institutional setting or in a group practice with other physicians acting as supervisors.
- In hospitals indicates that physicians can supervise more PAs in hospitals.
- No restriction in licensed health facilities and no restriction in hospitals indicate that a ratio does not apply in those settings.
- For surgeons indicates that surgeons are limited to two PAs.
- 3:1 or fewer if PAs cumulative work hours exceed 80 hours per week indicates that a physician may supervise up to three PAs, but that the total hours of work performed for all PAs under supervision by one physician cannot exceed 80 hours in one week.
- Board indicates that the regulatory board must approve a supervising physician's proposed ratio.
- Increase with board approval indicates that the supervising physician may supervise a larger number than the base ratio after seeking approval from the regulatory board.